REMARKS

Applicant has carefully considered the Examiner's Office

Action and has amended the specification and the claims for the

purpose of providing clarification, in view of the comments in

the Office Action.

Thus, in considering the Examiner's comments and assumptions made with respect to the drawings, they appear to be based on an error in Figure 2. In Figure 2, the reference numeral 6 indicated there, should be correctly interchanged with the reference numeral 5, as noted in the amended and replacement drawing sheets that are being submitted. In Figure 2 considered by the Examiner, furthermore, the reference numeral 6 was omitted in error, and should designate the element as indicated in the amended and replacement sheets. Applicant notes, at the same time, that these reference numerals 5 and 6 are correctly shown in the drawing of Figure 1. As a result, no new matter is being introduced into the application through the present drawing amendment.

Applicant believes that in view of the corrections made to the drawing of Figure 2, the subject matter of applicant's invention is clarified and the assumptions made by the Examiner will be found to be based on misunderstandings of the Examiner in view of the following: By replacing the reference numeral 5 in the original drawing of Figure 2, with the reference numeral 6, and designating the piston-rod centering ring 6 that was omitted in error by the correct element as shown in the corrected drawing of Figure 2, it is believed that the Examiner will find the assumptions made in the Office Action to be incorrect.

Thus, the Examiner's assumption that the "portions of applicant's device in the area of piston rod sealing and centering assembly 7" are located at the bottom of the device,

is not correct. Instead, these portions are located at the top of the device.

Furthermore, contrary to the Examiner's assumption, the "sealing seat" noted in the Office Action may not be considered as being located under the "circular ring 6", as noted by the Examiner in the Office Action. Instead, the "sealing seat" in applicant's invention is located on top of the piston-rod centering ring 6 and underneath sealing 16. This construction is shown in the corrected Figure 2.

Furthermore, the "sealing seat" is formed in applicant's invention by the conical surface 18 which cooperates with the "lip 17." Accordingly, the lip 17 and conical surface form together a check valve which prevents the gas in the gas accommodating space 19 from penetrating into the space between bushing 11 and seal 13. This feature is described in applicant's specification on page 6, paragraph 3.

In the Office Action on page 2, paragraph 1, last sentence, the Examiner comments that the views in Figures 1 and 2, "do not indicate that the cross-section of the circular ring is substantially circular shaped." From this comment, it is clear that the Examiner believes that reference numeral 6 designates a circular ring with a circular shaped cross-section. This, however, is not correct. Reference numeral 6 designates the "piston-rod centering ring 6," as shown in Figure 1 and by the corresponding section in applicant's specification. Thus, in applicant's specification on page 4, paragraph 2, sentence 3, line 15, as originally filed, describes "the wall of piston-rod centering 6 is approximately Z-shaped in cross-section."

Accordingly, it is clear from the preceding description in the specification, that the cross-section of piston-rod centering ring is not substantially circular shaped, as assumed by the Examiner.

Applicant notes that the element in applicant's invention, which has a substantially circular-shaped cross-section, is the

"main cross-section of seal 16." This structure is described in applicant's specification on page 5, paragraph 2, sentence 3, lines 16-17, as originally filed. The specification notes at this location that the "main cross-section of seal 16 is round."

It is noted, furthermore, that Figures 1 and 2 clearly show that the main cross-section of seal 16 is round and accordingly circular-shaped.

In view of the preceding explanations, it is clear that the Examiner's correction requirements to the drawings are based on the Examiner's misinterpretations of the drawings. Apparently, these misinterpretations are partly due to the necessary interchange of the reference numerals 5 and 6 and the proper application of reference numeral 6 in the corrected drawing of Figure 2.

Applicant is submitting both amended sheets as well as replacement sheets for the corrected drawing of Figure 2, as required.

It is believed that once the corrections to the drawing of Figure 2 are carried out as shown in the accompanying replacement sheet for that figure, the other drawing requirements set by the Examiner in the Office Action, are not further required.

The Examiner has objected to the specification for not providing proper antecedent basis for the expression "an elastically-tensioned circular ring" recited in claim 5. In response there to, applicant notes that proper antecedent basis for this expression is found in the original claim 4. Applicant has amended the specification, accordingly, to include this expression through the insertion on page 6 of the specification.

Applicant notes, however, that the Examiner is incorrect in the assumption described on page 3 of the Office Action. Thus, it is not the piston rod centering ring 6 which is an elastically-tensioned circular ring. Instead, it is the special seal 16 which comprises an elastically-tensioned circular ring

and which is round. Furthermore, lip 17 extends radially outward at the bottom from this seal 16, as described in the specification on page 5, paragraph 2, sentence 3, lines 16-18. It appears that this point was misunderstood by the Examiner.

The Examiner has also objected to the specification for not providing proper antecedent basis for the expression "two-cylinder spring-leg" as recited in claim 5, lines 2-3. However, proper antecedent basis for this expression is provided in the specification on page 3, lines 25 to page 4, line 1. The term used in this part of the specification is a "telescoping leg" instead of a "spring leg". Applicant has amended claim 5 accordingly to replace the term "spring" by the term "telescoping".

In view of the clarifications noted above with respect to the specification and the claims, it is believed that it may be clearly seen that the claims do not read on the prior art.

By replacing the expression "spring" with the term "telescoping" in claim 5, it is believed that this claim 5, together with the specification and the Abstract are all consistent with respect to this term.

Applicant has also substituted the term "diaphragm" with the expression "recess" in view of the objection of the Examiner.

 \cdot Claim 8 has also been amended to respond to the Examiner's objection with respect to the valve.

Claim 11 has been amended correspondingly to include the various amendments noted by the Examiner under 35 U.S.C. 112.

When taking into account the above-mentioned amendments as well as the clarifications submitted to the specification and claims, as well as to the drawings, and clearing up the misinterpretations and assumptions made by the Examiner, it may be seen that the claims do not read on the prior art British Patent GB-2115903(GB'903). Thus, this British reference patent does not disclose an elastically-tensioned circular ring on

which a sealing lip is formed for the purpose of forming a check valve.

There is also no anticipation in this British reference of a check valve formed on a sealing lip on a circular elastically tensioned ring having a circular-shaped cross-section.

Furthermore, there is no anticipation in the British reference, whatsoever, of a flow-through recess which is formed in a sealing seat under the circular ring.

In view of the preceding comparison between the prior art and applicant's invention, it may be seen that the subject matter of applicant's arrangement as defined in the amended claim 5 is novel and results from inventive thought and activity.

The Examiner's attention is respectfully directed to the court decision in the case of In re Bisley (94 U.S.P.Q. 80, 86), in which the Court decided that patentability is gauged not only by the extent or simplicity of physical changes, but also by the perception of the necessity or desirability of making such changes to produce a new result. When viewed after disclosure, the changes may seem simple and such as should have been obvious to those in the field. However, this does not necessarily negate invention or patentability. The conception of a new and useful improvement must be considered along with the actual means of achieving it in determining the presence or absence of invention. The discovery of a problem calling for an improvement is often a very essential element in an invention correcting such a problem. Though the problem, once realized, may be solved by use of old and known elements, this does not necessarily negate patentability.

Furthermore, in the case of ex parte Chicago Rawhide
Manufacturing Company (226 U.S.P.Q. 438), the Patent Office
Board of Appeals ruled that the mere fact that a worker in the
art could rearrange the parts of the reference device to meet
the terms of the claims on appeal, is not by itself, sufficient

to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device. The Examiner has not presented any evidence to support the conclusion that a worker in this art would have had any motivation to make the necessary changes in the reference device to render the here-claimed device unpatentable.

In the case of United Merchants and Manufacturers

Incorporated versus Ladd (139 U.S.P.Q. 199), the District Court ruled that although from simplicity of device and with advantage of hindsight, one might off-handedly be of opinion that anyone should have been able to make invention after studying prior art, claims are allowed since none of the references discloses or suggests the concept which is the crux of the invention.

Finally, in the case of Menge and Drissen (181 U.S.P.Q. 94), the Court ruled that progress in crowded arts, usually made in small increments, is as important as it is in arts at the pioneer stage; constitution envisages and seeks progress in useful "arts," not just in those more esoteric or scientific.

In view of the amendments to the drawings, specification and the claims, and in view of the preceding clarifying remarks, it is respectfully requested that the claims in the application be allowed and the case be passed to issue.

Should the Examiner consider it advisable or require that the specification and/or drawings and claims be further amended or corrected in formal respects to place the application in condition for final allowance, then it is respectfully requested that such amendments be carried out by Examiner's Amendment,

through a phone call to applicant's representative, and the case passed to issue.

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AMENDED SHEET S/N 10/612,635

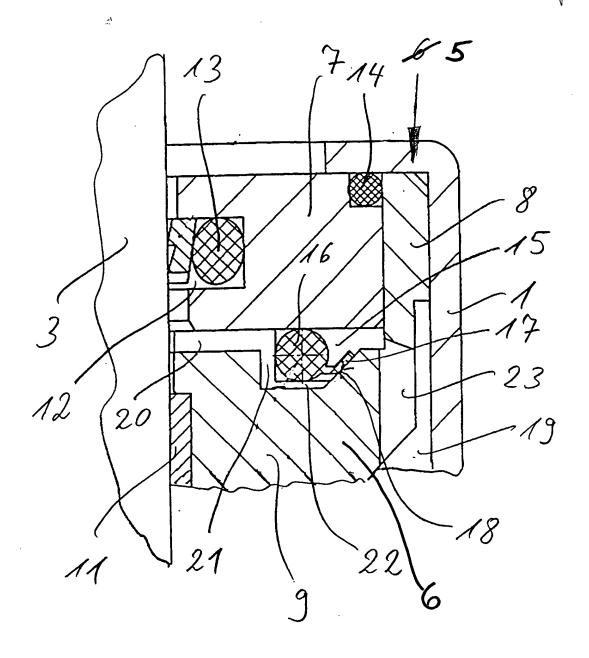


Fig. 2